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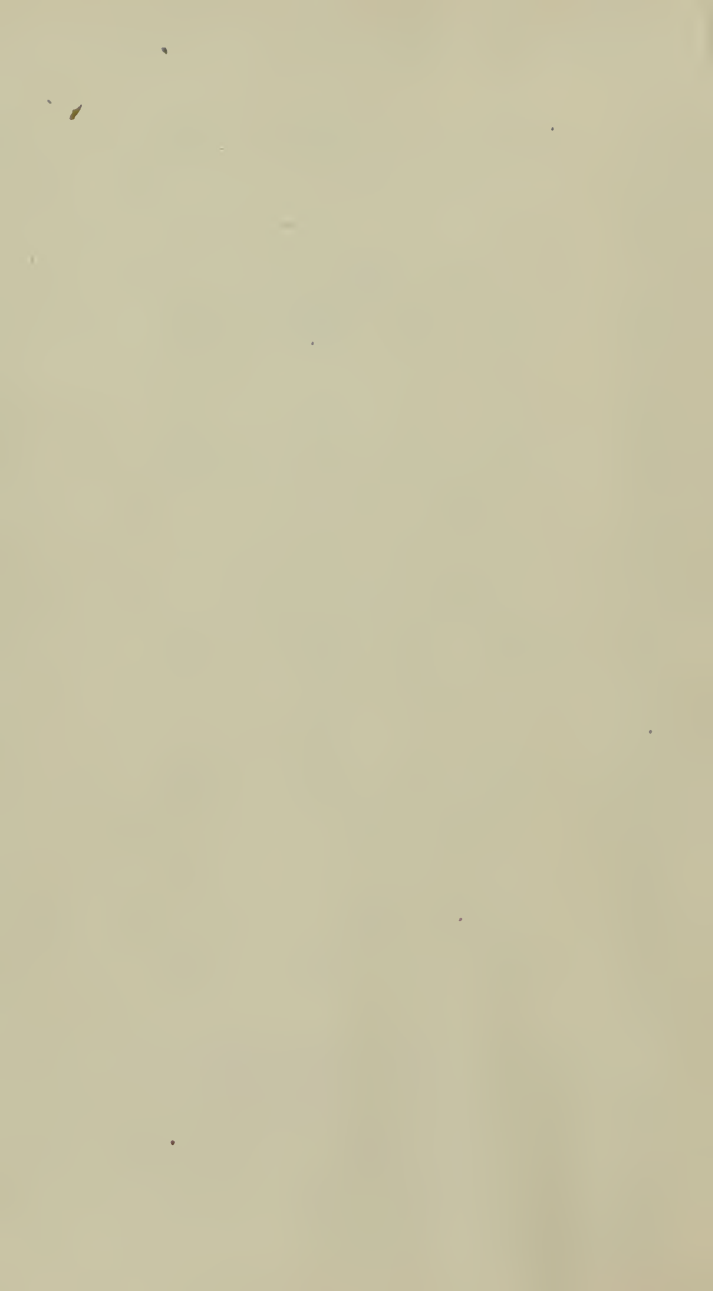
MEIGS:

ADDRESS TO THE
MANAGERS, MEDICAL
STAFF, AND STUDENTS
OF PA. HOSPITAL



DUE TWO WEEKS FROM LAST DATE

OCT 26 1962





ADDRESS

DELIVERED BEFORE THE

MANAGERS, MEDICAL STAFF, AND STUDENTS

OF THE

PENNSYLVANIA HOSPITAL,

ON THE

OCCASION OF THE OPENING OF THE NEW LECTURE
AND OPERATING ROOM,

JANUARY 9th, 1869.

BY J. FORSYTH MEIGS, M.D.,

ONE OF THE MEDICAL STAFF OF THE HOSPITAL.

PHILADELPHIA:

LINDSAY & BLAKISTON.

1871.

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TO THE READER.

I HAVE been attached to the Pennsylvania Hospital for thirteen years, as one of the attending physicians, and I lived in it as resident physician from March, 1838, to March, 1840. I know it therefore within and without, and I venture to take, with the full sanction of the Managers, and of my colleagues of the Medical Staff, this method of calling the attention of such Philadelphians as may chance to read this note, to the financial condition of the institution.

This hospital is not the rich institution which many persons ignorantly suppose it to be.

During the last official year its income from endowments was \$36,462.66. Its expenditures for the city hospital reached the sum of \$53,043.50. The difference between its income and expenditure was made up by casual subscriptions, continued only for a certain length of time. Its income, therefore, is uncertain. But not only is it uncertain, it is insufficient.

The steward of the hospital is obliged to use a close economy as to the number and wages of the nurses, and other domestics, and in regard to the quality and mode of preparation of the food, which

ought not to be necessary. And how is this to be remedied? Only by a more liberal endowment.

Some persons object to the management of the affairs of the institution in certain particulars, and for this reason lose their interest in its growth and well-being.

But even granting that there may be points in its management open to criticism, is that a reason why its past and present great services to the sick and wounded poor should be forgotten?

Since the year 1752 it has received within its wards 87,666 patients, of whom 53,640 were poor—unable and not asked to pay one stiver for their board or medical treatment. During the last official year it received 2094 sick and wounded, and of these 1738 were poor.

What an array of poverty, and misery, and suffering does not this simple statement bring up before the imagination; and what a divine charity must that be which has lodged and fed and bound up the wounds of this multitude of the poor.

With such a record as this before him, need any charitable person fear to give or bequeath to this hospital, the means of improving and extending its accommodations for the relief and comfort of the sick and wounded?

J. FORSYTH MEIGS.

September 25th, 1871.

ADDRESS.

GENTLEMEN:

My colleagues of the medical staff of this hospital have done me the honor of inviting me to make an address, on the occasion of opening for public use, this new and commodious operating and lecture room, the erection of which has been rendered necessary by the growing wants of the house, and of the system of medical education of the present day. I accept with pleasure this agreeable duty, and venture to hope that the theme I have chosen may not prove uninteresting to those who grace the occasion with their presence.

My subject is one towards which the thoughts flow naturally when we consider the nature of the event which has brought us together this day:—the dedication, so to speak, of this room to the purposes for which it has been built.

For what, then, has this room been built? Has it been erected to serve as the theatre for the various operations inevitable to a great hospital like this? Yes. Was it built to serve this purpose alone? No.

For what other use is it intended? Its other purpose is to further the development of what I conceive to be one of the grandest utilities of a great hospital, the proper education of young men for the vocation of the physician. I believe, and I do not hesitate to express my belief, that, in connection with the proper treatment of the sick in a hospital, one of the most beneficent uses of such an institution is the aid which it can and ought to give in propagating a wise system of medical education. By such a management two grand results are accomplished. All is done by the institution that the best and purest charity can effect for the individual sick within its walls, whilst by fitting young men for the difficult and important office of the physician, it radiates from its own narrow centre, to the vast mass of suffering humanity beyond its walls, a knowledge and experience of the best methods of treating wounds and diseases, which is of simply incalculable value to the public. I know well that there are some benevolent and tender spirits, to whom the idea of making anything like a use of the sick as a means of teaching medicine, savors of something harsh and revolting. But to such as have this very natural and proper fear, I will say that no well-trained and conscientious medical officer ever forgets that his first duty is to the individual sick

man intrusted to his charge, and that he is bound in honor and charity to allow no ulterior object to work detriment to him. In all hospitals there are many cases which can, without danger of injury, be brought before a medical class. Most of the patients, when the matter is properly and kindly represented to them, make no objection to such a procedure. Some rather enjoy it, and gladly lend their mite to the common good. Moreover, it seems but right that those who are fed and housed, and furnished with all the means and advice necessary to their medical treatment by the public, should make this moderate return of assisting, for the public, in the necessary education of competent medical men. Let it not be forgotten too, that this demonstration is never made to a promiscuous, or rude, or gaping public audience, who might assist at such a spectacle from mere vulgar curiosity. It is made only to those who belong to the same vocation or guild as that to which belong the surgeons and physicians of the house, and but for whom this hospital could not exist, and who, themselves, but for like opportunities in the past, could not have had that exact knowledge and experience whereby these very patients now profit.

My subject then is to be clinical teaching, viewed first in its relation to the early history of this hospital,

and secondly, in relation to the paramount importance of this matter to the public, and to the students of the complicated and difficult science of medicine.

In comparing the present with the past, it is interesting to know that the Pennsylvania Hospital, from the first opening of its wards to patients, was to play a very important part in the clinical education of the medical students of this city. The proof of the correctness of this statement is to be found in a small pamphlet printed in Philadelphia in 1817, which gives "some account of the Pennsylvania Hospital from its first rise to the beginning of the fifth month called May, 1754." It is there stated at page 49, that "about this time (1752) all the physicians and surgeons, who were contributors, were consulted, in order to form some rules relating to the choice, admission, and conduct of the practitioners, and after sundry meetings the following were prepared and agreed to, at a general meeting of the contributors." Amongst these rules the first sets forth that "the managers shall choose yearly six practitioners in physick and surgery, to visit and take care of the patients in the said hospital, and the other practitioners (who are at this time members of the corporation) shall have the privilege of attending and observing the practice of those chosen for the service of the year." Here at the very

outset of its career, we find the whole authority of the board of contributors providing that the hospital should be used, not only for the good of the sick and wounded in the house, but that the opportunities it might afford as a school of medical experience, should be extended to all the members of the board of contributors who were practitioners of medicine.

Again, in the sixth rule it is laid down that "each apprentice or other student the practitioners shall introduce to see the practice of the hospital, shall pay an English guinea, or thirty-four shillings, current money, per year, to be laid out in medicines, or such other matters as the managers think proper." Here, then, is provision made that students should be allowed to see the practice of the house, or, in other words, be taught clinical medicine.

I find still other proofs that this institution has, from a very early period, been active in lending its aid to the cause of clinical instruction. In an address on the occasion of the centennial celebration of the founding of the Pennsylvania Hospital, by Professor George B. Wood, delivered in the year 1851, the orator states that, "so early as 1766, Dr. Thomas Bond proposed to deliver a course of clinical lectures to the students, and, the proposition being approved by the managers, commenced in November with an introductory lecture, which was so

highly thought of by the board that it was copied into their minute-book." "From that time to the present," Prof. Wood continues, "clinical lectures have been given more or less regularly at the hospital, either in the form of remarks by the bedside, as the students were conducted through the wards, or when they have been too numerous, as of late, to be thus conducted, by regular lectures in the amphitheatre, to which the patients were conveyed." The centre building of the hospital, in the third story of which is the old operating and lecture room, which we vacate to-day for this so much larger and more convenient one, was not finished until the year 1805.

Thus, gentlemen, we are bidding adieu to-day to a room which has served as the arena of clinical instruction in this house for a period of upwards of sixty years. That room must have heard the voices of many of the most distinguished surgeons and physicians of this country. There must have taught the eloquent Rush, who continued his connection with the hospital up to the year 1813. Here also taught Wister, Physick, the two Bartons, Coxe, James, Dorsey, Hartshorne, Otto, Colhoun, Parrish, Thos. T. Hewson, the father of my present able colleague, the two Moores; but, gentlemen, I have not the time to mention the names of all those who, for the

pure and unselfish love of their art, have wrought strenuously, patiently, and many so wisely for the good of the patients in the house, and of those still more numerous sick and suffering, who were to be intrusted in all parts of our widespread land, to the skill and knowledge which the students here taught, might carry forth into the distant regions where they were to pursue the medical vocation.

It is pleasing, in glancing backwards from the moment of to-day, to know that the first mover in the foundation of this, for young America, old and time-honored institution, was a physician; that, to the medical body of this city, in the year 1751, we owe the germ of this, one of the oldest charitable corporations in this great and powerful nation. In Bigelow's late edition of Franklin's Autobiography I find, at page 281, the following passage, which clearly sets forth the fact I have just stated. Franklin says: "In 1751 Dr. Thomas Bond, a particular friend of mine, conceived the idea of establishing a hospital in Philadelphia (a very beneficent design, which has been attributed to me, but was originally his) for the reception and care of poor sick persons, whether inhabitants of the province or strangers. He was zealous and active in endeavoring to procure subscriptions for it, but the proposal being a novelty in

America, and at first not being well understood, he met with but small success.

“At length he came to me with the compliment that he found there was no such thing as carrying a public-spirited project through without my being concerned in it. For, says he, ‘I am often asked by those to whom I propose subscribing: Have you consulted Franklin upon this business? And what does he think of it? And when I tell them that I have not (supposing it rather out of your line) they do not subscribe, but say they will consider of it.’ I inquired into the nature and probable utility of his scheme, and receiving from him a very satisfactory explanation, I not only subscribed myself, but engaged heartily in the design of procuring subscriptions from others. Previously, however, to the solicitation, I endeavored to prepare the minds of the people by writing on the subject in the newspapers, which was my usual custom in such cases, but which he had omitted.” The account goes on to describe the manner in which Franklin obtained a grant of money from the Assembly, but it is not worth while to continue the quotation any further, as I have given you enough to show where the idea of this noble and useful institution took its birth.

This all occurred many long years ago. It is one hundred and seventeen years since that plain and

sober physician, with his broad-brimmed hat, his knee-breeches, buckled shoes, and buff-colored coat, came to him, who was to leave behind him one of the most famous names and reputations as philosopher, patriot, and statesman which this country has produced.

It was only eight years before this, 1743, that this city, which now boasts of a population of over 600,000 souls, contained only 10,000 inhabitants. One year before this time, one hundred and eighteen years ago, persons were living in this then small city who remembered when its site was a forest; the first-born of the city was then a man of sixty-eight years of age; and at that time bears, wolves, and wild turkeys were shot within eight miles of the State-house. At that time, too, the great city of Baltimore contained less than fifty houses.

Three years before Dr. Thomas Bond went to Franklin to solicit his aid in founding this hospital, on the 20th of September, 1748, Franklin wrote to a friend in New York, "I have retired to a more quiet part of the town, where I am settling my old accounts, and hope soon to be quite master of my own time, and no longer, as the song has it, 'at every one's call, but my own.'" And where, think you, was this more retired part of the town? It was at the southeast corner of Second and Race. His garden,

Parton says, probably extended to the Delaware, distant not more than one-eighth of a mile. It was not difficult, the biographer goes on to say, for him to indulge his passion for the water, in which he used to spend an hour or two every fine summer evening.

Franklin had not yet stood in the cock-pit in London, in the presence of thirty-five members of the Privy Council, with the Lord President Gower at their head, with Lord North, Burke, the Archbishop of Canterbury, Lord Shelborne, Dr. Priestley, Jeremy Bentham, and many other lookers-on, to abide for many hours what Bentham called the "pelting of the pitiless storm" of Wedderburne's most disgraceful and outrageous abuse and invective, a scene of villanous treatment of a messenger from a distant people which prompted Horace Walpole's epigram upon Franklin and Wedderburne:

Sarcastic Sawney, swol'n with spite and prate,
On silent Franklin poured his venal hate ;
The calm philosopher, without reply,
Withdrew, and gave his country liberty.

Franklin had not proved, by his famous experiment with the kite, the identity of lightning with the comparatively feeble and puny phenomena of electricity, obtained by rubbing various bodies with silk, or from the Leyden jar; nor had he yet won over

by his admirable diplomacy, by his original and manly independence of character, his wonderful tact, and, above all, by his commanding intellect, the court of Louis Seize and Marie Antoinette to the cause of his feeble and struggling country.

This was before the day of Braddock's expedition and defeat, when the site of the great manufacturing city of Pittsburg, with its population of over 80,000 souls, was marked only by a French fort. In those days, men not far from this great city, carried arms to the field and the church, that they might sow their grain and worship God, and, at the same time, guard their lives and property against the attack of the Indian, whom they were slowly thrusting back from the hunting-grounds he had inherited from his ancestors. And, gentlemen, how painful is the thought that the stronger race seems always, in history, destined not to absorb and civilize, but to crush out of existence, the weaker races with which he comes in contact. What Dr. Bushnell calls the out-populating power of the Christian stock seems nearly always to end in the destruction of a Pagan people.

In looking over a volume of the minutes of the Common Council of this city, from 1704 to 1776, to see whether there might be any reference to the hospital by that body, I found nothing connected with this institution; but was amused to find that about the

time it was established, this good city employed and paid a public whipper. At a common council held the 8th day of January, 1749, the high sheriff, Richard Sewall, in his account of sundry fines received, &c., claims a drawback of $8\ 1\ 5^{\frac{d.}{}}$ paid for a suit of clothes, hat, shoes, stockings, &c., for Daniel, the whipper, paid by order of ye magistrates. At the same meeting was read the petition of Barbara Morgan, setting forth that she was convicted at the last Mayor's Court of felony, and has received the corporeal punishment adjudged her; that she is much advanced in years, is so very poor that she is not able to pay even the costs of prosecution: the board therefore thought fit to remit the fine due from said Barbara Morgan to the Corporation.

So that this institution, in which we are now assembled, rose into life in the days when the red Indian called a large part of the State of Pennsylvania his own; at a time when the hold of France on this continent had not yet been broken; whilst our forefathers were still loyal subjects to the crown of England; and whilst the public whipper still exercised his functions in this city of brotherly love.

And now, gentlemen, after these remarks, upon the connection of this hospital with clinical teaching from its earliest history, I pass on to the second division of my subject; a consideration of the para-

mount importance to the public, and to medical students, of that branch of medical education for the development of which this room has been erected.

Since hospitals cannot be carried on without physicians and surgeons, any more than life insurance, or war by land or sea; since municipalities require their physicians for the prison, the dispensary, and the almshouse; since the ship of commerce never goes to sea without her surgeon or medicine-chest, and since every family in the community must have its doctor, medicine-chest, or quack-salver, it is plain that the medical profession is one of the necessities of society. In spite of the ridicule of wits and poets, and of some of the so-called wise people of society, in spite of homeopathist and hydropathist, it is plain that physicians and surgeons must be had. The soldiers and sailors of Grant and Farragut, and of Sir Robert Napier, would have marched into the pestilential swamp, and into the heat and storm of battle, with less of the sublime courage they so often exhibited, had they not known that trained medical officers stood ready, with ambulances and medical stores, to succor them in case of need. How could the great life insurance companies, with their millions of dollars of capital, continue their business without their skilled medical examiners? What husband, with any natural love for his wife, will

allow her to enter upon the pangs and dangers of childbed, without proper provision made to secure the services of a good accoucheur? What mother will face the perils of teething, scarlet fever, croup, and the thousand ills of infancy and childhood, without the aid of her family physician? When cholera, or some other epidemic, like yellow fever or typhus, falls upon a community, to whom does the public look but to the medical body? The whole public, therefore, and not merely the managers and medical staff of this hospital, are interested in the erection and proper use of this room, which we open to-day for the benefit of the public.

All the best writers on medicine, and the merest common sense, too, declare that clinical or bedside teaching ought to constitute an integral and imperative part of the curriculum of all medical schools.

Why, is it not plain that a student who refuses or neglects to employ the opportunity of acquiring that personal acquaintance with disease, which a large hospital affords, under the guidance of men trained by long experience, and with his great objective point, the sick man, before him, must, at last, teach himself clinically, groping in the dark and alone, at the bedside, and toiling painfully for years to acquire what might have been learned in as many months. No; no man should be allowed to

prescribe for the sick and wounded until he has touched and handled the sick, in the presence of, and aided by, men older than himself, who have themselves had the training which experience, personal and taught, can alone give. Health and life are possessions too important to the individual and to society, to be intrusted at haphazard to any man who may go about offering to take charge of things so precious. No honest and clear-thinking man would wilfully jeopard the serenity of his own soul, by stepping forth from a series of mere didactic lectures or readings, on the theory of medicine, surgery, and obstetrics, to face the terrible responsibility of health and life, until he had made himself in some degree familiar, by direct contact, under proper instruction, with those awful realities amidst which his work is to lie, wounds, disease, and the travail of childbirth.

A man might as well expect to become a proficient on the piano or violin, by the mere study of the laws of sound, as to become a ready and skilful practitioner of medicine by the mere study of anatomy, physiology, chemistry, or the theories of practice, surgery, obstetrics, and *materia medica*. The study of Tyndall on Sound never made and never will make a Paganini, or a Henri Herz, a Malibran, or a Jenny Lind. The fingers and the larynx and the

auditory nerve, must all be educated by long and patient clinical study, so to speak, before these organs and the nerve centres which govern them, can be brought to that wonderful state of perfection which habit and use alone give, whereby what were at first slow and awkward efforts of the will, directed to each separate sensation and movement, become at last the rapid and certain perceptions and resultant movements, which are accomplished by what seems to be an automatic process. Or, if we wish a further and simpler illustration of the necessity of practice to effect the development of the faculties, what need we more than the simple act of reading a printed page. All of us, I am sure, can recollect the time when the alphabet, and afterwards the words, incorrectly called in nursery language "easy words," entered into our consciousness only amidst tears and fears. No philosophic theory of the laws of form, of the line of beauty, or of the analysis and synthesis of colors, ever made a painter or a sculptor. No study of the correlation of forces ever made an intelligent and successful iron-master. No comprehension of the convertibility of heat into motion, or of motion into heat, ever taught an engineer how to start or to arrest his majestic and ponderous locomotive or iron-clad. A man might know Tyndall on Sound and Rush on the Voice from title-page to finis, and yet

be no nearer the marvellous power of a Grisi or a Lablache than you or I, whose larynx has never been trained to that kind of work.

Medicine is taught and learned to make practitioners, not mere medical savants. You who are come to this room to hear clinical lectures upon, and to see with your own eyes, the practice of medicine and surgery, to witness operations, and to observe the method of analyzing cases of disease, come here not to study a speculative philosophy, like Psychology or Metaphysics. Your object is to study your profession in its relations to executive action, to practice.

Medicine has been defined, of late years, as being both a science and an art—a science, inasmuch as it consists of a large body of exact knowledge, in the form of Anatomy, Physiology, Chemistry, and *Materia Medica*; an art, for the reason that this exact knowledge is to be applied to practice in the form of the different branches called Surgery, Practice of Medicine, Obstetrics, and Therapeutics.

The simple truth is that Medicine, as you and I have to study and use it, is a practical science, and, like all other practical, as opposed to purely speculative science, necessarily involves a theory. If we agree to call any branch of human knowledge an art,

when viewed in relation to its practical application, and a science, when viewed in relation to the theory which that practical application supposes, no one can object, and all the world can understand the terms. A very simple illustration will show my meaning. You place your ear over the heart of a healthy man, and hear certain sounds. The scientific side of medicine describes the exact character of those sounds, and explains their causes. Here we have the scientific description and theory of the physiological sounds of the heart. Again, you place your ear over the heart of a man who consults you about his health, and hear certain sounds more or less differing from those of the healthy heart. Pathology, the result of long and laborious study of disease, as physiology is the result of long and laborious study of the healthy organism, describes in accurate language, the various characters of these new sounds, explains their causes, and thus gives the disease which has produced them,—and here we have the scientific side of pathology. And now comes the art side of medicine. You know that this man is sick, and you apply this knowledge to practice. You make the diagnosis, announce the prognosis, and then the treatment, and lastly, you receive, if the patient has read his Bible, and recollects that the laborer is worthy of his hire, a proper fee or honorarium, and thus at last

we find medicine ranged amongst the bread and butter sciences.

Medicine is, therefore, both a science and an art, and like all other branches of human knowledge that are practical as well as scientific, can be acquired only by patient study of its subject or object, the sick man, or by what is called technically, observation. To become skilful practitioners of medicine, whether as Physicians, Surgeons, Obstetricians, or Specialists, as Aurists, Oculists, or Orthopedists, you must cultivate the habit of observation—you must become good observers. It has often been said that a thoroughly good observer is a rare thing in this world; in other words, that many men go about with eyes, yet not seeing; with ears, yet not hearing; with brains, yet not thinking. And is not this true? Do not some men seem to stumble through life as though in a dream, or half-asleep, not apprehending, not feeling, not seeing what is going on in this busy world on every side of them. This complaint of the want of good observers in medicine is founded in fact, for in the first place, nature does not create many men such as Hippocrates, Sydenham, Jenner, Laennec, or Louis, men endowed at birth with the mental and physical qualities which fitted them for that wonderfully wise and accurate observation, which has stamped their names on the roll of fame

forever. But I believe that whilst all men cannot hope to attain to the rare proportions of those I have just named, we all can cultivate, by careful and systematic and continued application at the bedside, a degree of accuracy and perfection which has no limit but that set by opportunity and duration of health and life.

Let us, gentlemen, in order to have a clear understanding of the nature of the study requisite in the medical vocation, consider what are the special faculties of the mind necessary for the purposes of correct medical observation. By doing this you will the better comprehend what lies before you, in what way you may best train yourselves into accurate observers. If you determine now what particular faculties are the most important for the study and practice of medicine, you may at the present moment, here in this new clinical room, resolve to set to work to develop by use, by training, the special faculties which you will require in your future lives. If a man, with a view to winning a boat race, or a cricket or base-ball match, or for the purpose of pummelling and being pummelled, in a prize-ring, will go into training for weeks or months—living on a diet, abstaining from tobacco and alcohol, and all and every kind of dissipation, sleeping so many hours, running his two or three miles a day—why shall not a stu-

dent of medicine determine to put himself, at the outset of his studies, into a sort of training for the great game of his life, a contest with disease and death?

I am about to cite to you the division of the faculties of knowledge laid down by Sir William Hamilton, of Edinburgh, him who has been called the prince of philosophers. This citation from a great work on metaphysics may seem, at first view, strangely out of place in a lecture upon clinical medicine, but I have no fear that you will think the quotation either tedious, pedantic, or far-fetched, if you will only bear in mind that these faculties are, so to speak, the mental and physical tools, by the proper use of which you are to have the power to become able and successful physicians.

The faculties of knowledge which are used in the acquisition of knowledge, whether a knowledge of tumors or phthisis, fracture, cut or contusion, croup or convulsions, chemistry, materia medica or therapeutics, painting or sculpture, architecture or agriculture, pin-making or bread-making, or any other practical human science or art, are divided by Hamilton into six categories :

1. Presentative { External=Perception.
Internal=Self-consciousness.
2. Conservative=Memory.

3. Reproductive { Without Will= Suggestion.
With Will= Reminiscence.
4. Representative= Imagination.
5. Elaborative= Comparison—Faculty of Relation.
6. Regulative= Reason—Common Sense.

Let us now consider how these various faculties are to be employed in the study of clinical medicine.

To observe a case of disease accurately, nearly all these faculties of knowledge thus classified by Hamilton, must be brought into constant play; we require, of course, that one of the presentative faculties called the external or perception, for we must assuredly use the eye, the ear, and the touch in every case that comes before us. In many we shall need also the sense of smell. That of taste is fortunately not so necessary as formerly in the investigation of disease, since we have so many better, more agreeable, and more certain tests for the presence of sugar in the urine, and acid or alkali in the perspiration, than our forefathers had, when they were obliged to test for those substances with their gustatory nerves. With the eye we must study the physiognomy, the color and fulness or opposite of the skin, the presence or absence of eruptions, and their many various shades of difference or likeness, the general outline of various parts of the body, to determine whether there be fracture

of bones, dislocation of articulations, the presence of tumors, and their specific characters. With the same sense we must study the various secretions and excretions of the body, and the discharges from diseased parts.

With the touch we measure the consistency of parts, as their hardness or softness, their degree of sensibility as determined by pressure; by this we judge of the presence or absence of fluid in tumors, of pus within inflamed parts, of serum or other effusions into cavities, of the condition of the uterus in the pregnant and non-pregnant woman; by the touch we ascertain the presence or absence of crepitus in supposed fractures, of grating in diseases of the joints, of tactile fremitus in external or internal aneurism, in valvular diseases of the heart, in inflammation of pericardial or pleural surfaces; by this we determine the force of the vocal fremitus in various altered conditions of the lung or pleura; by the touch we judge of the temperature of the body, a symptom which, within a few years, owing to the more accurate information afforded by the thermometer, has assumed a certainty and importance it has never before had.

With the ear we must examine the natural and morbid sounds which the organs give rise to by their motions, including amongst these the various and

important signs afforded by the respiratory and cardiac movements, whether in health or disease. With this sense we are to determine the signs afforded by percussion, the crepitus of fracture, or of diseased and grating joints, and of subcutaneous emphysema.

By this, also, the many and important changes of the voice are to be appreciated, such, for instance, as the weak and whispering, or almost extinct voice of membranous croup, the rough and husky voice of catarrhal or ulcerative laryngitis, the feeble and touching tones of the dying, or the delicious and happy notes of the convalescent, the shriek of the maniac, and the dull and soulless sounds which issue from the mouth of the half-comatose or the semi-idiotic.

As to the smell and taste enough has been said to show that they, also, must be used in the observation of many cases of disease.

I think I have said enough to convince you that to become practical physicians we need that one of the presentative faculties, called the External or Perception, quite as much as in any other of the practical arts of life. And not only so, but these senses of external perception are capable of cultivation in the highest degree, and to attain to great perfection in their use in medicine, they must be trained and

practiced by constant use upon the object they are to study,—the sick man and his various symptoms.

Not only, however, must this faculty of external perception be used in the observation of cases of disease, but still higher faculties of knowledge must be employed in the same operation. Memory, the conservative faculty;—the reproductive faculty, whether reproduction without the will or suggestion, or reproduction with the will or reminiscence; the representative faculty, imagination, to place afresh before the consciousness similar or dissimilar cases observed in the past, or culled from the stores of other men's experience, for the purpose of comparison with the present; the elaborative faculty, comparison or the faculty of relation, including judgment or reasoning, the highest faculty of all, whereby we determine the differences or likenesses between things, and thus enter judgment upon the sick man before us, and prove to our self-consciousness that he is the subject of such a disease or injury, and of none other, and that the proper remedy and treatment is thus and so.

If, gentlemen, these various faculties of the human intelligence are necessary for the proper observation of a case of disease, how can any one hope to make himself a competent physician except by developing them at the bedside? Where else can he find the

phenomena, by the study and comparison of which these faculties are to be used, trained, practiced, developed, strengthened? Use, alone, in this world makes perfect. Repetition, iteration, and reiteration, are the only means by which we can establish in the nervous centres where the various faculties I have cited to you have their location, that curious and wonderful ease and facility of function or play, which we call habit, whereby the perceptions derived from our senses, instead of being converted only slowly and by an intense action of the will and attention into clear judgments and determinations to action, become so rapid and so apparently independent of the will, as to seem automatic or reflex. The power of habit to render all and every kind of human work which the vocation of the man may call upon him to do, whether mental or bodily work, coarse or fine, as digging and delving, pin-making, organ, violin or piano playing, running up long lines of figures without conscious effort, cutting for cataract or section of the cornea, iridectomy or amputation at the hip-joint, or passing a ligature around the carotid or subclavian amidst nerves on which life or limb depend, percussing the chest or feeling the pulse, analyzing the sounds of a diseased heart, or of an aneurismal tumor, all, all become easier, more rapid, and more certain and accurate, in proportion

as they are more perfected by habit. Habit makes biting the nails more and more easy, agreeable, necessary, and automatic or unconscious. Habit makes the inveterate opium-eater a slave bound hand and foot. Habit makes the drunkard a constantly worse drunkard. Habit makes the miser's gold ever more rich and rare to him. Habit makes the benevolent man to become at last little less than an angel of mercy. Habit enables the geologist and astronomer to read the strata of the earth, and the courses of the stars, as a child reads its easy lessons. Habit, finally, enables the trained and accomplished physician to unravel the most obscure and dangerous cases of disease, and, greater than all, sometimes puts within his control, in the form of scientific therapeutics, the issues of life and death. Ah! gentlemen, study, clinical and therapeutical study, long, and assiduous, and earnest, and these alone, make the great physician, and, moreover, make his difficult and responsible duties comparatively easy and certain.

It seems to be a law of our nature that, to comprehend fully the qualities of any object external to ourselves, we must see it, or handle it, or taste it and hear it—or, in other words, observe and study it by as many of our senses of external and internal perception, as we can bring to bear upon it. Take

any of the world-famous productions of human science or art, and note how impossible it is to form any clear, satisfactory, and definite idea of it in the mind, from mere descriptions, or even from copies. Take the Apollo Belvidere: who ever found that any description, or picture, or photograph, or copy in marble or bronze, gave him a true idea of that famous statue? Not until his own eyes have seen it, in all its glory, in the Vatican, can he be said to comprehend and make it a part of his own consciousness. Or, take the greatest picture in the world, the Transfiguration of Raphael. How tame all word-pictures of that marvellous production. How short of the truth even the best copies by the ablest hands. Who grasps the beauty and majesty of our Capitol at Washington, or of St. Peter's at Rome; the exquisite grace of the Cathedral at Cologne, or of the ruins of Melrose or Tintern, until the eye itself has admitted to the consciousness of the individual, the size, form, and outlines, which make up those wonderful human works. So, gentlemen, all philosophy and all experience tell the same story, that, "In the sweat of thy face shalt thou eat bread." Whether it be the grace and beauty of the Apollo, the glory of the Transfiguration, the grandeur of St. Peter's, the majesty of the Capitol, the soft tenderness and antiquity of those old Scotch and English

ruins, or the daily work of the physician amongst wealth and luxury, or rags and wretchedness; education and refinement, or ignorance and brutality; amidst cholera or typhus, railroad accidents or the roar of battle; amidst the big and little things of the profession; restoring the blind to sight, the lame to walk, the dying to life; from scybala to scirrroids, from expectorations to expectations, from diagnosis to prognosis, and from therapeutics to the final recovery or death,—all tell the same story,—nothing but work, work, toil, education of the faculties, external and internal, of each individual man who hopes and desires to become a proficient in his work. The sculptor, the painter, the architect, the philosopher, the poet, the statesman, the savant, the doctor, “the butcher, the baker, and candlestick maker,” all must toil and educate themselves if they hope to become great and skilled in their vocations.

Gentlemen, to conclude this, I fear, wearisome discourse, I am about to make a somewhat long extract from the writings of the great man to whom I have already referred,—Sir William Hamilton. And what can I do better than to cite to you some of the conclusions on the mannèr and effects of study, at which, after his long years of devotion to the analysis of the human mind, this most profound and accomplished thinker arrived. The opinions of such a

student may well be listened to, and most carefully adopted into our own consciousness for use and profit, and especially for encouragement. The extract which I am about to make, concerns the subject of attention,—that concentration of the mind, by a determined volition, upon any matter which it is desirable for us to thoroughly comprehend and understand.

Hamilton says: “Before leaving this subject, I shall make some observations on the value of attention, considered in its highest degree as an act of will, and on the importance of forming betimes the habit of deliberate concentration.

“The greater capacity of continuous thinking that a man possesses, the longer and more steadily he follows out the same train of thought, the stronger is his power of attention; and in proportion to his power of attention will be the success with which his labor is rewarded. All commencement is difficult; and this is more especially true of intellectual effort. When we turn for the first time our view on any given object, a hundred other things still retain possession of our thoughts. Even when we are able, by an arduous exertion, to break loose from the matters which have previously engrossed us, or which every moment force themselves on our consideration; even when a resolute determination, or the attraction of the new object, has smoothed the way

on which we are to travel; still the mind is continually perplexed by the glimmer of intrusive and distracting thoughts, which prevent it from placing that which should exclusively occupy its view, in the full clearness of an undivided light. How great soever may be the interest which we take in the new object, it will, however, only be fully established as a favorite, when it has been fused into an integral part of the system of our previous knowledge, and of our established associations of thoughts, feelings, and desires. But this can only be accomplished by time and custom. Our imagination and our memory, to which we must resort for materials with which to illustrate and enliven our new study, accord us their aid unwillingly,—indeed only by compulsion. But if we are vigorous enough to pursue our course in spite of obstacles, every step, as we advance, will be found easier; the mind becomes more animated and energetic; the distractions gradually diminish; the attention is more exclusively concentrated upon its object; the kindred ideas flow with greater freedom and abundance, and afford an easier selection of what is suitable for illustration. At length, our whole system of thought harmonizes with our pursuit. The whole man becomes, as it may be, philosopher, or historian, or poet; he lives only in the trains of thought relating to this charac-

ter. He now energizes freely, and consequently with pleasure; for pleasure is the reflex of unforced and unimpeded energy. All that is produced in this state of mind bears the stamp of excellence and perfection."

After describing thus the nature and uses of attention, Hamilton gives various instances from the history of great men, of their opinions as to the value of this quality of the mind, and of their own special habits. He states that Newton replied to some one who complimented him on his genius, that "if he had made any discoveries it was owing more to patient attention than to any other talent." He quotes Mrs. Siddons as attributing the whole superiority of her unrivalled talent to the more intense study which she bestowed upon her parts, and says of Descartes, that like Newton, he arrogated nothing to the force of his intellect, but attributed what he had accomplished more than other men, to the superiority of his method. Genius itself, he says, has been analyzed by the shrewdest observers into a higher capacity of attention. Genius, says Helvetius, is nothing but a continued attention. Genius, says also Buffon, is only a protracted patience. And Cuvier asserts, that, in the exact sciences, at least, it is the patience of a sound

intellect, when invincible, which truly constitutes genius.

Gentlemen, I do not *know* that there are any embryo Harveys, or Sydenhams, or Jenners, now before me, but I do know that there must be, amongst the students who have so kindly listened to my words this day, some ardent and intelligent spirits, upon whom the arguments in favor of a patient and assiduous cultivation of habits of strict medical observation, at the clinical lectures to be given in this room and elsewhere, cannot fail to produce some generous fruit.

That the discussion of the necessity, and inevitable benefit to be derived from clinical study, which you have heard from me this day, may, in effect, arouse in some of you, a determination to severe and sustained study and attention to this department of medicine, is the best wish I can give you.

ADDRESS

DELIVERED BEFORE THE

MANAGERS, MEDICAL STAFF, AND STUDENTS

OF THE

PENNSYLVANIA HOSPITAL,

ON THE

OCCASION OF THE OPENING OF THE NEW LECTURE
AND OPERATING ROOM,

JANUARY 9th, 1869.

BY J. FORSYTH MEIGS, M.D.,

ONE OF THE MEDICAL STAFF OF THE HOSPITAL.

PHILADELPHIA:

LINDSAY & BLAKISTON.

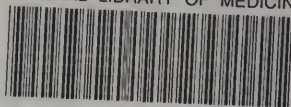
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